



Traffic Flow Management Wrap-up

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Key Findings from 2010

- San Francisco Stratus research
 - Objective was to simultaneously consider weather modeling, traffic flow modeling, and operational practices
 - NASA developed vision, problem statement, and selected NRA
- Analysis complete: shows promise to save \$4.8M/year (\$9.6M with line of flight consideration) and 19% reduction in delayed flights (1092 hours/year)
- Stand alone, web-based decision aid was created and can be accessed through NWS website (provided to NWS and FAA)
- Operational shadow assessment being planned with the FAA for the 2011 stratus season

CONSENSUS FORECAST

16z
Model
Run

Approach Clear At

19:02

GMT

Quality

Good

Probability of Clearing By:

17Z

18Z

19Z

20Z

5%

10%

50%

90%

COMPONENT FORECASTS

Run

Model

Fcst

Wgt

16:00

COBEL

19:01

0.24

16:00

Local

17:17

0.28

16:00

Regional

18:43

0.14

16:00

Satellite

20:35

0.34

Hourly Forecast Summary

Model Forecast Details

15Z GDP RECOMMENDATIONS

15Z Consensus Forecast

> Clear at 17:25 GMT

[GOOD]

Traffic Data

15:18 GMT

Current

Alt-1

Primary

Alt-2

Start Time

15:30

15:30

15:30

15:30

End Time

18:59

18:14

18:29

18:44

Scope

12West

12West

12West

12West

AAR

45@

18:00

16:45

17:30

17:45

60@

19:00

17:45

18:30

18:45

Risk

*

*

*

*

Exceed Max Queue

1%

9%

6%

2%

Benefit

\$\$

\$

\$\$

\$\$

Delay Reduction

24%

17%

20%

27%

Expanded statistics



Key Findings from 2010

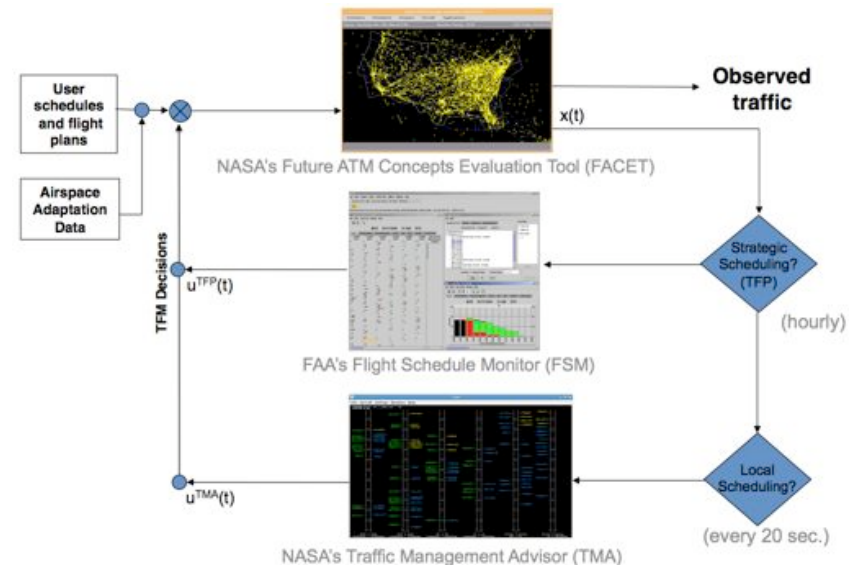
- Optimization-based scheduling models can reduce NAS delays by over 40% compared to current operations
- Weather information must be translated, not simply displayed, to achieve maximum benefits
- Failure to consider the integrated impact of traffic management initiatives can lead to over 50% of flights being “double delayed”, as commonly occurs in current day operations (DFW and ATL Case Studies)



Integration Opportunities

What are the most important TFM integration opportunities to pursue?

- Weather Integration
 - Integration with existing FAA Decision Support Tools
 - Integration with NASA simulation systems (e.g., FACET)
- TFM + Arrival Scheduling
- TFM + DAC
- Others?





High Technical Readiness Level Activities:

- Are there HITLs that we should consider running?
- Are there opportunities for operational engineering or shadow assessments?

Low Technical Readiness Level Activities:

- Weather translation models
- Environmental impact modeling
- Scheduling and routing
- Flight prioritization techniques